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Complexity, Governance & Networks – Vol. 6, No 1 (2020) Special Issue: Global Governance in Complex Times: Exploring New Concepts and Theories on Institutional Complexity, p. 14-31
DOI: http://dx.doi.org/10.20377/cgn-103

The Complexity and Instability of Policy Conditionality and Transfer: IMF Interventions in the Political Economy of South America

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International Monetary Fund (IMF) interventions have evolved in the last sixty years based on the predominant orthodoxy in world political economy with a focus in recent decades on encouraging liberal market conditions to secure inward investment and capital flows. This has resulted in a dominant model of policy conditions and transfer, but with a debate about the contextual relevance. This paper uses an innovative approach to longitudinal research, called Dynamic Pattern Synthesis, to compare the economic performance of South American nations between 2000-2015. The results from using this method illustrates multifinality in the IMF outcome of encouraging foreign direct investment. A complex configuration of influences on this outcome are evidenced. Complexity theory is used to explain the results, with the continent defined as a complex system that does not respond to simple causal policy mechanisms, but rather displays different patterns of political and economic influence in the context of global market instability. Different foreign direct investment configurations result, and these illustrate that international monetary and policy interventions need to be contextual and cannot make simplistic and universal assumptions about policy problems and their mechanistic solutions.

Keywords: Dynamic Pattern Synthesis; International Monetary Fund; South America; Policy Conditionalities; Macroeconomic Instability

Introduction

The IMF is an international financier that lends to its member countries when they experience balance of payments problems. Its funding comes from deposits from all member countries. The purpose of its loans are to facilitate an individual country being able to accumulate adequate international reserves and to stabilize their currency. This should allow a continuation with payments for imports and to successfully engage in international trade. The IMF assumes that its financing will create macroeconomic stability that drives growth. They also impose conditionalities on loans: for example, demanding reductions in government current accounts and spending (Thacker, 1999). Conditionalities are designed to cover the scope and detail of an IMF intervention and the specific tools used to monitor progress (IMF, 2019). These measures are intended to preserve IMF funds by guaranteeing that the country's balance of payments will be enough to permit it to repay the loan. It has been argued by a previous IMF chief economist that the primary goal of the IMF lending is to enable a country to borrow from other sources, for example, to attract capital from international investors, as Foreign Direct Investment (FDI): "The IMF is…tasked with helping countries hit by financial crises regain access to private credit markets" (Rogoff, cited in Inman, 2019). Indeed, recent academic scholarship has attempted to identify this 'catalistic effect' of IMF interventions in stimulating FDI (Breen & Egan, 2019). Here, it is suggested that the presence of an IMF intervention may serve as 'a seal of approval' accrediting recipient nations, thereby encouraging FDI inflows (Bauer, Cruz, & Graham, 2012). This approach to IMF activities is what is often regarded as the 'neo-liberal turn' in international relations, occurring after the 1970s, and where international organisations turned increasingly to facilitating open global markets as the fundamental paradigm to drive activity (Jessop, 2002; Stiglitz, 2002; Vreeland, 2006). In this paper, we consider how the presence or

absence of IMF interventions has influenced the FDI profile of South American countries, while also considering the influence of other key economic indicators, and situate this policy system in the framework of complexity theory.

Background

The 1980s provided the scenario for IMF intervention and application of policy conditionalities in exchange for loans during the Latin American region's debt crisis that saw the wide imposition of Structural Adjustment Programmes (Pastor, 1989). These programmes pushed national governments towards open, global market economic approaches. Authors such as Naomi Klein have explored the lineage of these economic policies, traced it back to the economic 'shock therapy' introduced in Chile by the Pinochet regime in the 1970s, and referred to this in terms of 'disaster capitalism' (Klein, 2007). Thus, the IMF has been described by critical literature as one of the global institutional overseers of a broader neoliberal globalization project that aims to enforce market-based forms of development policies, a concentration of power in the hands of transnational corporations, and the establishment of freedom of movement for capital in search of investment opportunities (Greig, Hulme & Turner, 2007; Aalbers, 2013).

The South American experience in the 1980s resulted in significant increases in inequality and poverty (Klein, 2007; Kohl & Farthing, 2009). As a result, some authors have referred to the IMF as part of the 'unholy trinity' (along with the World Bank and the World Trade Organisation) (Peet, 2010), or referred to this organisation as a predator in a global system of economic oppression that reflects the interests of capital and of the global north (Chossudovsky, 1999). The historical experience with the IMF of many countries in South America is partly responsible for explaining the attitude of public officials and why some left-leaning nationalist governments were elected to office in the period of our study (2000-2015): from Brazil (2003-2016), to Argentina (2001-2015), Ecuador (2007-2017), or Bolivia (2006-2019). Often following popular uprisings, these governments were referred to as 'the pink tide' (Spronk, 2008). A common theme of these governments during this period was the rejection of neoliberal economic principles and of the international institutions that promote them (De la Barra & Dello Buono, 2009). Here is a different influence on international relations, one that we might see as synonymous with Neo-Marxism and the idea of a nation state that still has some relative autonomy from the power of global capital and finance.

The Argentinian IMF relationship hiatus was marked by the collapse of the economy in 2001 and a long lapse in associated international financial relations until the recent 2018 facilitation of a $50Bn rescue package (Mander, 2018). All this illustrates an opposition to the work of the IMF in some of the countries that need international assistance and distrust in its underpinning ideology and associated policy agendas. If the IMF has moved towards making sure developing countries operate within a certain global economic framework underwritten by powerful economies with comparative advantage and currency supremacy, it is not surprising that many poorer countries have been through periods when they have resisted working with it. But to cast the international relations of the IMF approach into a simple duality of global capitalism versus global anti-capitalism is too simplistic. For this reason, we turn to the framework of complexity theory.

Theoretical Perspective: Complexity of IMF Interventions

Complexity theory has had an increasing impact on approaches to social science research with a growing number of sources citing this approach (Byrne & Callaghan, 2013). In this paper, we argue the evaluation of an international policy instrument like IMF loans requires such a new theoretical framework. This is because the cases involved (nation states) and the external context (the global economy), are always

changing, and any intervention mechanism, like conditional lending, is likely to be highly dependent on time and space diversity in the underlying context and mechanisms (Gerrits, 2012). There are multiple sub systems of interaction, including intergovernmental cooperation, and capital, trade and labour flows influenced by the market, but also regulated by governments. One of the best summaries of the contribution that complexity makes to these policy challenges came from the late Paul Cilliers (1998, 3-4). For the purposes of this research article, we have paraphrased this to define the socio-political-economic system of national countries sharing the continent of South America.

In our research, the environment is the global economy, and the sub system of interest is the majority of the largest South American national economies. Many have experienced at least one IMF intervention in the period 2000-2015. This historical period was chosen to reflect a substantial period before and after the global financial crisis of 2008. The system is defined by many different levels, cases, and elements, in accordance with Cilliers' narrative. At the top level is the global economic system with its flows of finance, trade, and labour and the international financing institutions of the IMF with its economic and political agenda, as dictated by the dominant world economic powers, like the United States and European Union. Although we are focused in this paper on the international role of the IMF, there are other global institutions of importance at this level, such as the World Bank and United Nations. Beneath this global 'super system' is the level of the nation state, and in this study, we compare nations and whether they have experienced IMF interventions. We refer to these nations as 'cases' and apply a case-based research method, as explained in our methods section below.

Cilliers stated that cases (in our research, these are the nation states) are defined by the relationships and interactions between them and across the system. Also, in our research we observe the influence in international relations of the powers and functions of global institutions like the IMF. Cilliers asserted that the relationship between cases in a system is not static, but dynamic, so there is no fixed state in the relationships between nation states and the international institutions that influence them. There may be periods of stability in these relationships, but also periods of instability, and over time we must expect different changes and paces of change. Public policy is designed to promote aspects of certainty and stability and to limit instability when the market is seen as potentially destabilizing. Such a view of the need for international policy was at the heart of the birth of the IMF in international relations, at the Bretton Woods post war agreement. In this sense, the IMF should operate in what Snowden & Boone (2007) describe as the 'zone of complexity'. It seeks to increase economic stability rather than instability and potential chaos.

Another observation of Cilliers is that the dynamic interactions of cases in complex systems vary in volume and frequency, but are more likely to be influenced by interactions with other cases in their locality. In international relations, we can think of local system relations being the reality that neighbours are important (Haynes & Haynes, 2016; Collier, 2008). Nations are likely to be influenced by those on their geographical borders. Similarly, interactions and communications are quite likely to get scaled up from these localised relations. This is one important influence on a nation in addition to the capital flows dominated by the wealthiest nations and institutions. Behaviour (like the type of communication and requests made to the IMF, or government decisions to ignore the IMF) are quite likely to be copied, leading to 'positive feedback' where nations, their institutions, and elites copy certain approaches to policy, governance, and investment. Governments may copy policy ideas, including approaches negotiated with monetary lenders like the IMF, or political decisions to ignore the IMF. Similarly, for example, large investors may exit capital from certain countries and regions of the world and copy each other's behaviour. Interventions, including international policy, can be used to check such feedback and to create what (Meadows, 2009) calls 'balancing feedback'. IMF policy interventions might be thought of in this way.

Finally, Cilliers recognizes the importance of history for a system and its behaviour, as cases (nations) are always influenced by their previous experience. There is no 'year zero' for nation states. This

means that while countries are changing, they are always to some extent influenced by their history. Yet countries have some agency as they move forward. This makes complexity research interested in how different or similar countries are over time, as cases are not pre-determined alone by history but also subject to numerous internal and external factors, not least the interactive relations that take place between them (Byrne, 2005).

Historical comparative advantage is important in the working of global economics. The supreme economic power of the dollar in the global capital market place is a major distorting factor for poorer countries. This makes them vulnerable to capital movements that are unhelpful to their own ability to raise capital. History dictates that there is no stable economic 'level playing field'. Ideally, global institutions would build positive international relations by mitigating such extremes of comparative disadvantage (Stiglitz, 2006). The task of individual nations to find the right domestic economic policy in such shifting international dynamics is extremely difficult. In their seminal review of complexity theory and public policy, Geyer and Rihani (2010, p. 141) conclude on an optimal policy environment:

> 'There are some rules to follow; create a stable institutional framework, encourage decentralized local interactions, avoid civil strife and a stifling state structure… However, there is no perfect pattern for exactly how a country should stay within these boundaries.'

Given the above theoretical framework, we argue that complexity theory is an appropriate approach through which to try and understand the interventions of the IMF in the workings of nation states and their political economies in South America.

Method

Social scientists who seek to apply a complexity theoretical framework to their applied research use a variety of methods. Often, they are critical of cross-sectional, single time point modelling and linear based multi-variate models, fearing that these methods are likely to give a simplistic, partial, and static view of complex dynamic circumstances (Harvey & Reed, 1996; Reed & Harvey 1992). As a result, we have seen in the 'turn to complexity' (Urry, 2005) the promoting of mixed methods, longitudinal, and case-based approaches. Longitudinal case-based approaches show the dynamics of case patterns over time (Byrne, 1998). Gerrits & Verweij (2016. p. 8) comment, "there is a need for methods that retain the complex details of particular cases and that compare those cases in a systematic and transparent manner". In case-based methods, cases are "a complex combination of properties, a specific whole that should not be lost or obscured in the course of the analysis – this is a holistic perspective" (Berg-Schlosser, et al, 2009. p. 6).

These methods should assist in avoiding over-simplification, where understanding the diversity of cases is lost at the expense of over-emphasizing their similarity. In short, cases may be similar in some respects, but they are also likely to be different in others. A longitudinal case-based approach enables the researcher to better ascertain whether cases are becoming more similar or more different over time. One recent innovation to achieve such complex understanding was the integration of agent-based modelling with the case-based approach (Castellani, Barbrook-Johnson, & Schimpf, 2019). Pagliarin & Gerrits (2020) have recently developed a longitudinal approach to Qualitative Comparative Analysis. One method for examining the dynamic similarities and differences in cases over time in complex circumstances is Dynamic Pattern Synthesis (DPS). This method combines exploratory cluster analysis with explanatory configurational approaches to case analysis and association (Haynes, 2018).

Dynamic Pattern Synthesis examines the similarity and difference of cases at the different time points selected and the extent to which cases are similar and different over time. This can also be related to a particular outcome variable. In this research the outcome variable is Foreign Direct Investment (FDI).

The reason for this is that the IMF has stated their ambition to intervene in nation states to enable them to attract new investment from global capital markets.

The DPS method is used in this paper to explore and compare the case interaction with some core economic indicators. The cases are twelve countries in South America, including those that experienced IMF interventions in the period 2000-2015. These countries are: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela. A hierarchical cluster analysis (HCA) explores the influence of selected key economic variables on the similarity and differences of these countries (Pastor, 2010). The choice of variables is influenced by the core macroeconomic variables monitored by the IMF and similar international organisations. The full list of variables analyzed in the exploratory cluster analysis is in table 1. Cluster dendrograms (figures 1 – 3 in the results section) reveal the similarity groupings at each time point and can be used to begin to understand changes over the timescale used.

Code	*Explanation*
FDI	Foreign Direct Investment, net inflows (annual percentage of GDP)
GDPPC	Gross Domestic Product, Growth per capita (annual percentage)
GGNLB	General Government net lending/borrowing (annual percentage)
IACP	Inflation, average consumer prices percentage change
NBTT	Net barter, terms of trade index (2000 = 100)
ODA	Net Overseas Development Assistance received per capita (Current US$)
IMF prior intervention	Was there an IMF loan, in the preceding historical period? (*This variable is only used in the configurational stage of analysis, after the initial cluster explorations*)

Table 1 List of Political Economy Variables included[1]

Configurational tables can then be used with the same dataset to examine the influence of variables on cluster formulation and how these configurations change over time. To do this, the variable individual case scores are also considered with regard to their point on the central tendency of the variable distribution, either being above threshold, or below threshold. The central tendency point used is the median. The mean and standard deviation statistics are also provided in these tables, as points of reference. Tables of case configurations are used to identify any clusters of cases that share the same variable threshold. An additional variable is added to this configurational modelling to evaluate the influence of IMF interventions. This is a dichotomous variable – countries that did experience prior IMF loans, and countries that did not. When a cluster, or group of countries of interest, share the same threshold score on a given table, these similar scores are either shaded in black with white text to represent a shared score pattern above threshold, or shaded in grey to represent a shared score pattern below threshold. When analyzing the tables in the results, the Boolean convention of UPPERCASE equals above the median, lowercase equals below the median, is used (Ragin, 1987; Rihoux & Ragin, 2009). The results tables can be used to identify which threshold scores are consistently shared by all members of a cluster or group.

[1] Our variable selection assumes that, given the mission statement of the IMF, its activities are more likely to have an influence on certain macroeconomic undertakings of a country. For this reason, we selected six macroeconomic indicators likely to be impacted by an IMF intervention.

Results

Figure 1 shows the clusters resulting from the 2000 data analysis where six macro-economic variables (table 1) have been entered into the analysis. The resulting clusters of similarity are: cluster one – Brazil, Colombia, Peru and Chile; cluster two – Argentina, Uruguay, Paraguay, Bolivia; cluster 3 Ecuador and Venezuela. Guyana (4) and Suriname (5) are outliers.

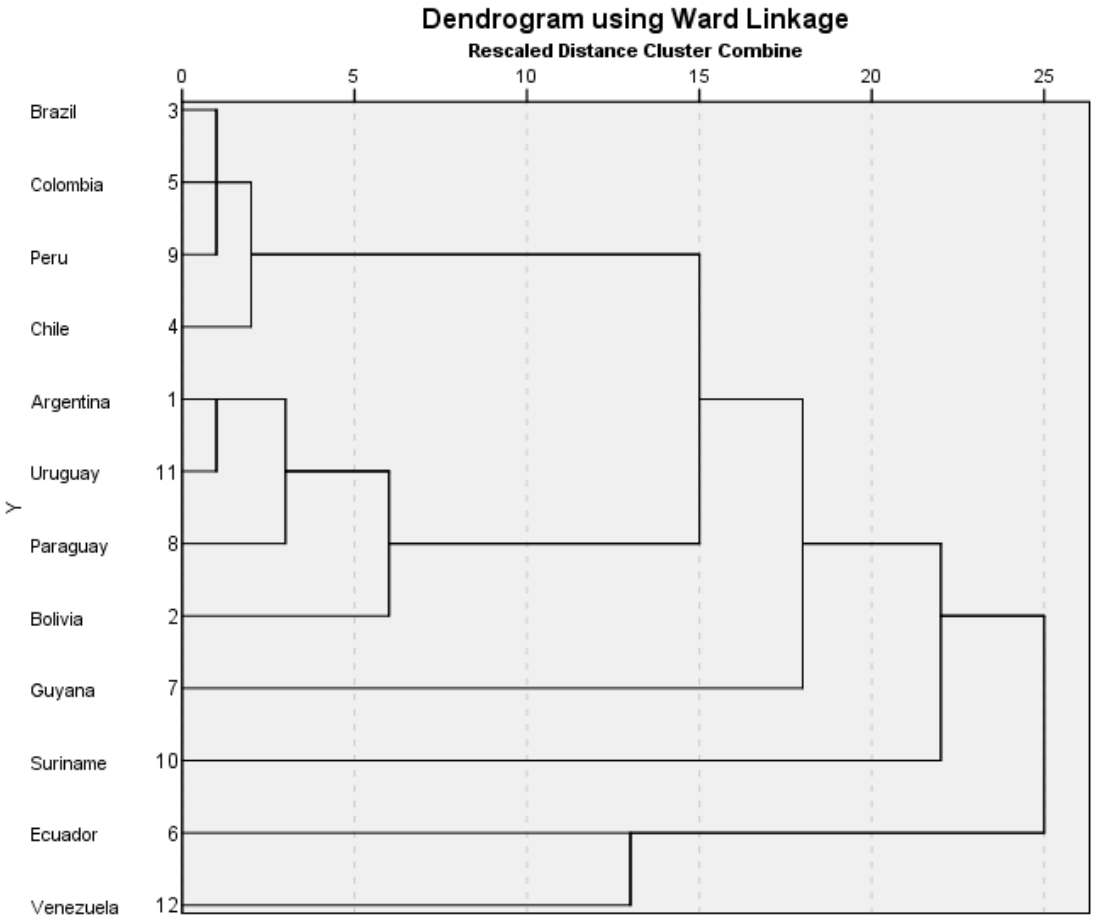

Figure 1 HCA Dendrogram: Core Economic Characteristics, South American Countries, 2000

Table 2 shows the data format, including the addition of the cluster membership variable and the new IMF prior loan variable. The configurational approach helps to validate the clusters by explaining variable influences on each cluster membership. The evidence of shared shaded threshold scores suggests that some of the clusters are best subdivided into a and b pairs, as in this format they then share more threshold shaded evidence of similarity.

In table 2, an additional categorical variable is added (IMF) not used in the cluster analysis. This indicates which countries have had an IMF loan intervention for the period before 2000.

	GDPPC	GGNLB	IACP	NBTT	ODA	Cluster	IMF	FDI
Brazil	2.61	-3.32	7.04	99.94	1.38	1a	1	5.03
Colombia	2.91	-2.94	9.22	96.9	4.62	1a	0	2.44
Peru	1.29	-2.09	3.76	98.51	15.49	1b	0	1.56
Chile	4.09	-0.06	3.84	92.75	3.19	1b	0	6.24
Argentina	-1.89	-3.33	-0.94	96.91	1.63	2a	0	3.67
Uruguay	-2.28	-3.34	4.76	103.73	5.6	2a	1	1.15
Paraguay	-4.26	-0.95	8.98	107.28	15.74	2b	0	1.32
Bolivia	0.58	-3.73	4.6	110.34	58.28	2b	1	8.77
Venezuela	1.75	7.53	16.21	81.63	3.25	3	0	4.01
Ecuador	-0.75	-0.31	96.1	91.23	11.66	3	1	-0.13
Guyana	-0.97	2.83	6.11	98.71	155.25	4	1	9.42
Suriname	-1.21	-8.31	29.56	97.03	77.56	5	0	-16.59
Mean	*0.16*	*-1.50*	*15.77*	*97.91*	*29.47*			*2.24*
Median	*-0.09*	*-2.52*	*6.58*	*97.77*	*8.63*			*3.06*
St Dev	*2.36*	*3.74*	*25.35*	*7.19*	*44.53*			*6.36*

Table 2 Country Case Configurations Ranked by Cluster Membership results, 2000

Cluster one is split between two distinct pairs. Cluster 1a, Brazil and Colombia, share similar variable characteristics for GDPPC, ggnlb, IACP, and oda. Cluster 1b, Peru and Chile, share similar variable characteristics for GDPPC, GGNLB, iacp, and no IMF interventions. Cluster two is split between two similar pairs, a and b. Cluster 2a, Argentina and Uruguay, share shaded scores for gdppc, ggnlb, iacp, and oda. Cluster 2b, Paraguay and Bolivia share scores for NBTT and ODA. The third cluster, Venezuela and Ecuador share GGNLB, IACP, and nbtt. Guyana and Suriname are outliers. The clusters indicate several different economic patterns that characterise the groupings, but none of the similarity groupings have similar FDI characteristics. One of the outliers, Guyana, as the highest FDI score and did experience IMF intervention. There is little evidence overall of the diverse economic patterns influencing FDI in 2000 for these twelve countries. Table 3 ranks the configurations differently to table 2, to demonstrate more clearly the configurations of IMF interventions with FDI outcomes. As a result, the economic cluster grouping are dispersed.

The first group has higher FDI outcomes and prior IMF interventions (Brazil, Bolivia, and Guyana). The other shared shaded variable for this group is higher NBTT. The second group (Chile, Argentina, and Venezuela) also has higher FDI outcomes, but they have achieved these without prior IMF interventions. This group shares shaded scores for lower nbtt and oda. The third group (Uruguay and Ecuador) have lower FDI, despite experiencing IMF interventions. The other shared shaded score for this pair is lower gdppc. The final group (Colombia, Peru, Paraguay, and Suriname) have lower FDI outcomes and did not experience prior IMF interventions. They do not share any other economic characteristics.

	GDPPC	GGNLB	IACP	NBTT	ODA	Cluster	IMF	FDI
Guyana	-0.97	2.83	6.11	**98.71**	155.25	4	1	**9.42**
Bolivia	0.58	-3.73	4.6	**110.34**	58.28	2	1	**8.77**
Brazil	2.61	-3.32	7.04	**99.94**	1.38	1	1	**5.03**
Venezuela	1.75	7.53	16.21	81.63	3.25	3	0	**4.01**
Chile	4.09	-0.06	3.84	92.75	3.19	1	0	**6.24**
Argentina	-1.89	-3.33	-0.94	96.91	1.63	2	0	**3.67**
Ecuador	-0.75	-0.31	96.1	91.23	11.66	3	1	-0.13
Uruguay	-2.28	-3.34	4.76	103.73	5.6	1	1	1.15
Paraguay	-4.26	-0.95	8.98	107.28	15.74	2	0	1.32
Peru	1.29	-2.09	3.76	98.51	15.49	1	0	1.56
Suriname	-1.21	-8.31	29.56	97.03	77.56	5	0	-16.59
Colombia	2.91	-2.94	9.22	96.9	4.62	1	0	2.44
Mean	*0.16*	*-1.50*	*15.77*	*97.91*	*29.47*			*2.24*
Median	*-0.09*	*-2.52*	*6.58*	*97.77*	*8.63*			*3.06*
St Dev	*2.36*	*3.74*	*25.35*	*7.19*	*44.53*			*6.36*

Table 3 Country Case Configurations Ranked by FDI Outcome and Prior IMF Interventions, 2000

Figure 2 shows the clusters resulting from the 2008 data analysis. The first cluster comprises of Argentina, Colombia, Brazil and Ecuador. The second cluster comprises of Bolivia, Paraguay, and Chile. The third cluster is Peru and Uruguay. The fourth cluster is Suriname and Guyana. Venezuela is an outlier.

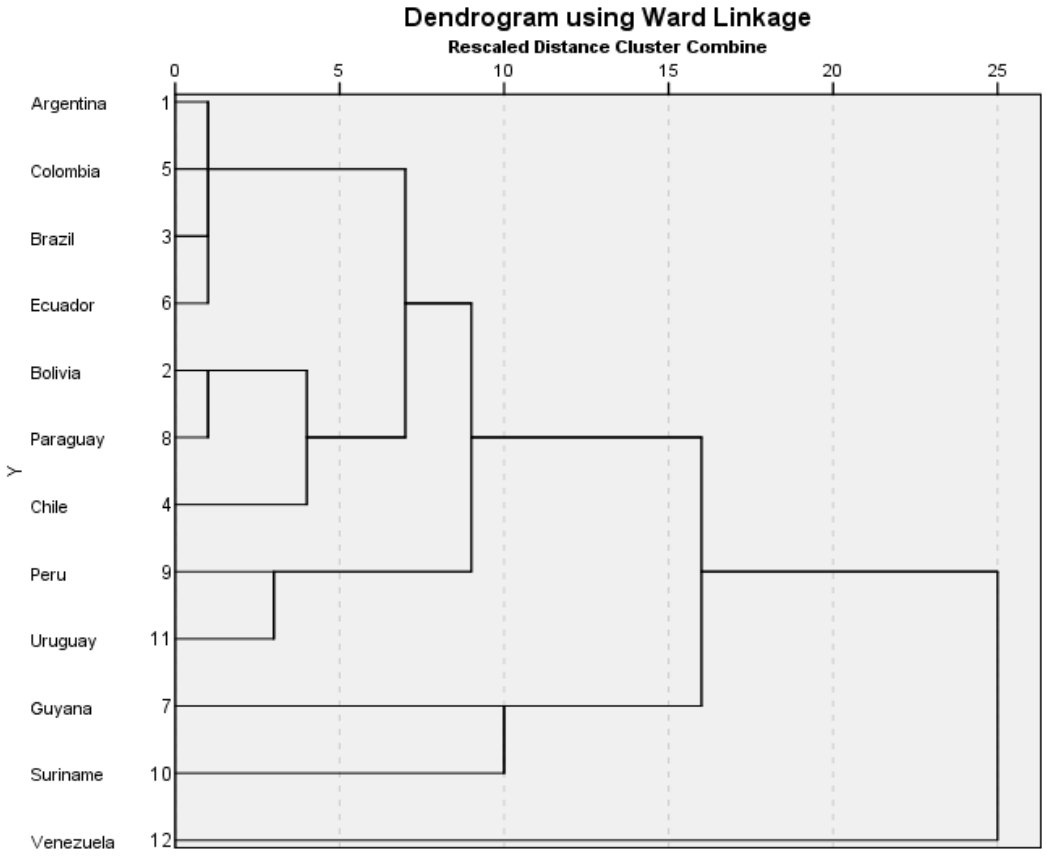

Figure 2 HCA Dendrogram: Core Economic Characteristics, South American Countries, 2008

Table 4 shows the cluster configurations and provides evidence of which variables are contributing the most to each cluster construction. Again, an additional categorical variable is added. This dichotomous categorical variable indicates which countries have had one or more IMF prior loan interventions for the seven-year period before 2008.

Cluster one is divided into two sub-groups based on the configurational evidence of similarity. Cluster 1a comprises of Colombia and Argentina and they share shaded scores of gdppc and ggnlb. Cluster 1b, Brazil and Ecuador, share lower scores for fdi, higher scores for GDPPC, and lower scores for iacp and oda. IMF prior interventions are confirmed for both countries. Cluster two is also divided into two homogenous sub-groups. Cluster 2a, Bolivia and Paraguay, share shaded scores for GDPPC, GGNLB, IACP, ODA, and IMF prior interventions. Cluster 2b, is a partial outlier in this cluster, Chile, which shares shaded scores with the cluster for GGNLB and IACP. Cluster 3, Peru and Uruguay, share shaded scores for GDPPC, iacp, and FDI, with both having experienced IMF interventions. Cluster 4, Guyana and Suriname share shaded scores for gdppc, nbtt, and ODA. Venezuela is an outlier.

Country	GDPPC	GGNLB	IACP	NBTT	ODA	Cluster	IMF	FDI
Colombia	2.33	-0.25	7.00	148.86	21.75	1a	0	4.33
Argentina	3.00	0.23	8.59	139.48	2.97	1a	1	2.69
Brazil	4.03	-1.53	5.68	109.78	2.34	1b	1	2.99
Ecuador	4.57	0.56	8.40	146.06	15.86	1b	1	1.71
Bolivia	4.40	3.57	14.01	173.34	65.45	2a	1	3.07
Paraguay	4.94	2.96	10.19	92.70	22.29	2a	1	1.83
Chile	2.43	3.58	8.72	169.63	6.37	2b	0	10.28
Peru	7.80	2.68	5.79	148.07	16.36	3	1	5.74
Uruguay	6.82	-1.59	7.88	85.42	9.87	3	1	7.05
Guyana	1.93	-1.92	8.10	102.82	218.34	4	1	9.29
Suriname	3.04	1.61	14.67	119.02	197.30	4	0	-6.55
Venezuela	3.80	-2.02	31.44	446.61	2.20	5	0	0.66
Mean	*4.09*	*0.66*	*10.87*	*156.82*	*48.43*			*3.59*
Median	*3.92*	*0.40*	*8.50*	*142.77*	*16.11*			*3.03*
St Dev	*1.71*	*2.08*	*6.76*	*91.62*	*73.25*			*4.22*

Table 4 Country Case Configurations Ranked by Cluster Membership Results, 2008

Table 5 reconfigures the 2008 data to compare the FDI outcomes with prior IMF interventions. The first group have shared shaded higher FDI outcomes and prior IMF interventions (Bolivia, Peru, Uruguay, and Guyana). No other economic characteristics are similar for all four. Another group (Colombia and Chile) also have higher FDI outcomes, but they have achieved these without prior IMF interventions. This pair also shares scores for gdpcc and NBTT. Argentina, Brazil, Ecuador, and Paraguay have lower FDI, despite experiencing IMF interventions. The four do not share other similar economic characteristics. The final group (Suriname and Venezuela) have lower FDI outcomes and did not experience prior IMF interventions. This pair share the shaded scores of gdpcc and ICAP.

Country	GDPPC	GGNLB	IACP	NBTT	ODA	Cluster	IMF	FDI
Guyana	1.93	-1.92	8.10	102.82	218.34	4	1	9.29
Uruguay	6.82	-1.59	7.88	85.42	9.87	3	1	7.05
Peru	7.80	2.68	5.79	148.07	16.36	3	1	5.74
Bolivia	4.40	3.57	14.01	173.34	65.45	2	1	3.07
Brazil	4.03	-1.53	5.68	109.78	2.34	1	1	2.99
Argentina	3.00	0.23	8.59	139.48	2.97	1	1	2.69
Paraguay	4.94	2.96	10.19	92.70	22.29	2	1	1.83
Ecuador	4.57	0.56	8.40	146.06	15.86	1	1	1.71
Chile	2.43	3.58	8.72	169.63	6.37	2	0	10.28
Colombia	2.33	-0.25	7.00	148.86	21.75	1	0	4.33
Venezuela	3.80	-2.02	31.44	446.61	2.20	5	0	0.66
Suriname	3.04	1.61	14.67	119.02	197.30	4	0	-6.55
Mean	*4.09*	*0.66*	*10.87*	*156.82*	*48.43*			*3.59*
Median	*3.92*	*0.40*	*8.50*	*142.77*	*16.11*			*3.03*
St Dev	*1.71*	*2.08*	*6.76*	*91.62*	*73.25*			*4.22*

Table 5 Country Case Configurations Ranked by FDI Outcome and Prior IMF Interventions, 2008

The cluster analysis for 2015 (figure 3) data produced the following clusters. Cluster 1 has four countries with two pairs: Colombia and Guyana; Uruguay and Peru. Cluster 2 has three members: Argentina, Paraguay, and Ecuador. Chile (cluster 3), Bolivia (cluster 4), and Venezuela (cluster 6) are outliers. Cluster 5 comprises Suriname and Brazil.

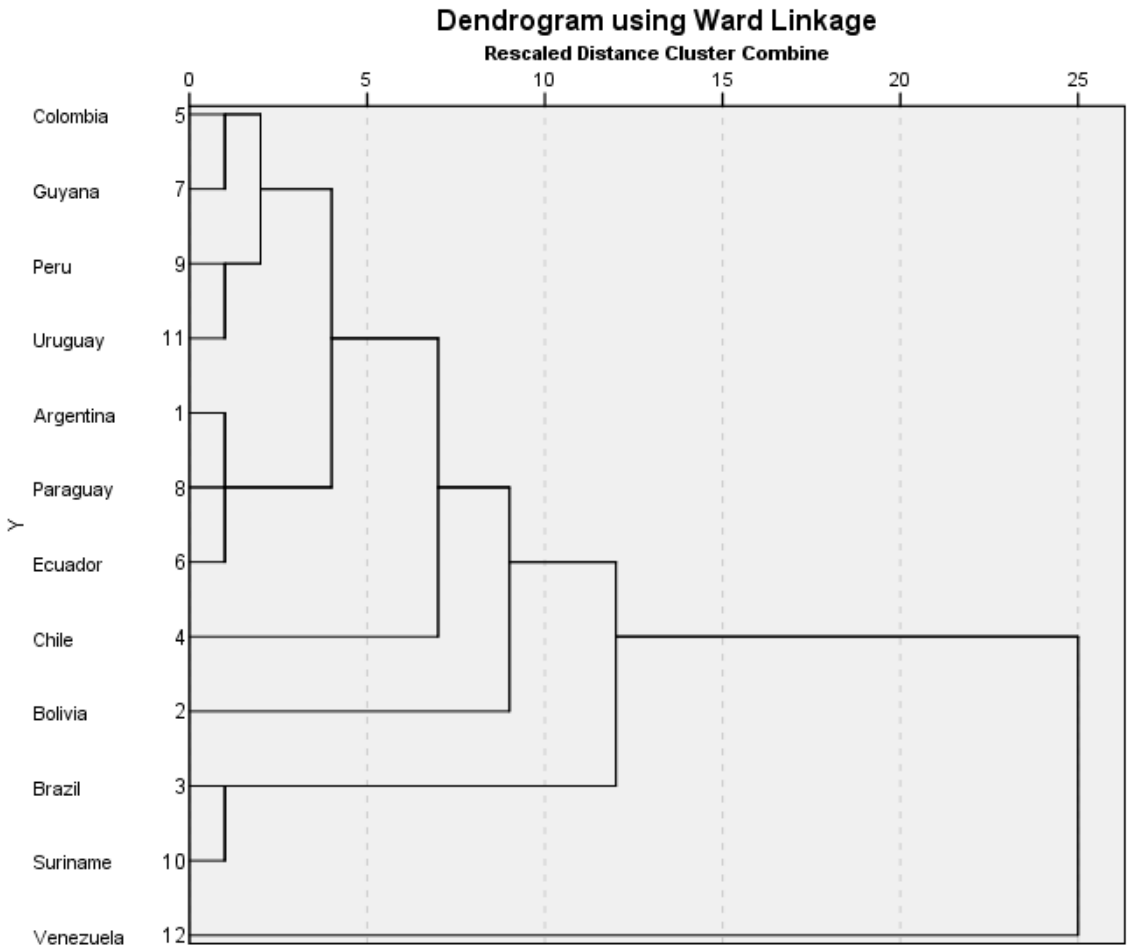

Figure 3 HCA Dendrogram: Core Economic Characteristics, South American Countries, 2015

Table 6 shows the case configurations again based on the transformations of the variables to above and below threshold scores. Because there were no new IMF loans to these South American countries between 2007 and 2014, the IMF priors categorical variable has been reconfigured in this analysis of 2015 data. The IMF prior variable now comprises of three ordinal categories to reflect IMF prior interventions between 1996 and 2007. Category 0 means that zero loans were made. Category 1 means between 1 and 2 loans were made; category 2 means that 3 or more loans were made.

Cluster one can be divided into two similar pairs. Group 1a, Colombia and Guyana, share shaded scores for FDI, GDPPC, GGNLB, nbtt, and ODA. Group 1b, Peru and Uruguay, share scores for FDI and GGNLB and share the highest rating for prior IMF interventions. Cluster 2 includes Argentina, Ecuador, and Paraguay. The shared shaded scores are for fdi and prior IMF interventions are in the mid-range. Cluster 5, Brazil and Suriname share scores for gdppc, ggnlb, and IACP. The remaining countries are outliers.

Country	GDPPC	GGNLB	IACP	NBTT	ODA	Cluster	IMF	FDI
Colombia	2.12	-3.41	5.00	110.35	28.11	1a	0	4.03
Guyana	2.62	-0.21	-0.87	115.42	41.88	1a	1	4.31
Peru	1.92	-2.20	3.55	159.10	10.67	1b	2	4.36
Uruguay	0.02	-3.58	8.67	106.12	6.75	1b	2	4.57
Argentina	1.70	-5.79	10.62	146.93	-0.43	2	1	1.98
Ecuador	-1.40	-5.26	3.97	118.97	19.71	2	1	1.33
Paraguay	1.62	-2.41	3.13	108.57	9.06	2	1	1.94
Chile	1.11	-1.86	4.35	188.90	3.02	3	0	8.63
Bolivia	3.27	-6.90	4.06	94.85	73.78	4	1	1.68
Brazil	-4.37	-10.33	9.03	108.38	4.87	5	2	4.15
Suriname	-3.53	-9.36	6.90	128.05	28.89	5	0	3.81
Venezuela	-4.73	-9.01	121.74	268.29	1.22	6	1	0.24
Mean	*0.03*	*-5.03*	*15.01*	*137.83*	*18.96*		*1.00*	*3.42*
Median	*1.37*	*-4.42*	*4.68*	*117.20*	*9.87*		*1.00*	*3.92*
St Dev	*2.71*	*3.16*	*32.32*	*46.95*	*20.76*		*0.64*	*2.10*

Table 6 Country Case Configurations Ranked by Cluster Membership Results, 2015[2]

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This final 2015 table 7 is a reconfigured version of table 6 to rank FDI outcomes. This makes it easier to see if any overall configurational patterns are influencing FDI outcomes for all the possible variable influences, including prior IMF interventions. The first group are three countries (Peru, Uruguay, and Brazil) that have experienced 3 or more prior IMF interventions and experience higher FDI in 2015. The second group includes six countries that have experienced a mid-range of IMF interventions. With the expectation of Guyana, these countries have lower fdi. The third group is the pair of Colombia and Chile who have no prior record of IMF interventions in the twenty years before 2015 but are experiencing higher FDI. They also share higher GGNLB. . Finally, Suriname has no record of previous IMF interventions and is lower on fdi.

[2] Note: IMF variable is an ordinal variable, based on the number of prior loans from 1996 – 2007. There were no IMF loans made to South American countries between 2007 – 2015. Category of 0 = 0 loans, 1 = 1 or 2 loans, 2 = 3 or more loans

Country	GDPPC	GGNLB	Inflation	NBTT	ODA	Cluster	IMF	FDI
Uruguay	0.02	-3.58	8.67	106.12	6.75	1	2	4.57
Brazil	-4.37	-10.33	9.03	108.38	4.87	5	2	4.15
Peru	1.92	-2.20	3.55	159.10	10.67	1	2	4.36
Guyana	2.62	-0.21	-0.87	115.42	41.88	1	1	4.31
Argentina	1.70	-5.79	10.62	146.93	-0.43	2	1	1.98
Paraguay	1.62	-2.41	3.13	108.57	9.06	2	1	1.94
Bolivia	3.27	-6.90	4.06	94.85	73.78	4	1	1.68
Ecuador	-1.40	-5.26	3.97	118.97	19.71	2	1	1.33
Venezuela	-4.73	-9.01	121.74	268.29	1.22	6	1	0.24
Colombia	2.12	-3.41	5.00	110.35	28.11	1	0	4.03
Chile	1.11	-1.86	4.35	188.90	3.02	3	0	8.63
Suriname	-3.53	-9.36	6.90	128.05	28.89	5	0	3.81
Mean	*0.03*	*-5.03*	*15.01*	*137.83*	*18.96*		*1.00*	*3.42*
Median	*1.37*	*-4.42*	*4.68*	*117.20*	*9.87*		*1.00*	*3.92*
St Dev	*2.71*	*3.16*	*32.32*	*46.95*	*20.76*		*0.45*	*2.10*

Table 7 Case and variable configurations ranked by FDI outcomes, 2015

Discussion

Table 8 shows the variable averages when comparing the three time points studied (2000, 2008, 2015). This gives some indication of the trajectory of each indicator in the period studied, but it is not a trend analysis that includes each intervening year.

	FDI	GDPPC	GGNLB	IACP	NBTT	ODA
2000	3.06	-0.09	-2.52	6.58	97.77	8.63
2008	3.03	3.92	0.40	8.50	142.77	16.11
2015	3.92	1.37	-4.42	4.68	117.20	9.87

Table 8 Variable trends: averages for 12 South American countries, 2000, 2008, 2015

Foreign Direct Investment as a percentage of GDP is stable between 2000 and 2008, with an incremental upward trajectory after the financial crisis in the period when the IMF lending is not active in South America. Gross Domestic Product per Capita is negative at the time of the South American Debt crisis in 2000, and peaks at the beginning of the financial crisis. This is because the global financial crisis had a mild effect on many South American countries with economies dominated by the export of commodities—many of which were quite high in prices. These countries were relatively disconnected from financial flows between some of the global financial centres (i.e. Wall Street, City of London, Hong Kong, etc).

Gross government borrowing turns negative in 2015, perhaps indicating an ease for governments in raising borrowing in the post 2008 crisis period when they are not dependent on the IMF. Inflation also shows some downward consolidation after the 2008 financial crisis. Net barter terms of trade, as a measure of export earnings over import earnings, is at its most positive at the beginning of the global financial crisis in 2008, as the dollar begins to strengthen making exports more competitive. This indicator remains positive in 2015. Overseas Development Assistance as a percentage of GDP is at its highest in 2008.

When the influence of IMF interventions is configured with FDI outcomes there is no evidence of universal related patterns with the other economic data (tables 3, 5, 7). Small groups of countries are periodically influenced by certain variable patterns, but the patterns are time limited and dynamic over the medium and longer term.

In 2000, Guyana, Bolivia, and Brazil experience considerably above average FDI and above average terms of trade. Inflation is close to, or below, average for these countries and government borrowing is below -4% (where the maximum lend is -8%). Their economies are stable and IMF lending seems to contribute to this stability with resulting inward investment. But other configurations are rather different and do not follow this trend. Venezuela, Chile, and Argentina achieve lower rates of FDI (still above average) but without IMF loans. Terms of trade, and overseas development assistance are below average for these three economies. They are a dissimilar group of countries and all were situated in different economic clusters in the HCA stage of the analysis (table 2). This is most likely a reflection of the differing conditions of their specialist trade markets at that time. Such markets can be a key magnet for inward investment when a specific market is growing, but subject to limited growth periods and fluctuations. In contrast, Ecuador and Uruguay have considerably below average FDI, despite receiving IMF loans. They share below average (and negative) gross domestic product growth. This suggests their economic performance is not sufficient to appeal to inward investment at a time when other South American countries have economies performing better. The exploratory cluster analysis of economic performance (table 2) confirms four countries in cluster 1 with considerably above average gross domestic product growth (ranging from 1% to 4%) and three achieve above average FDI, but only one has received IMF support (Brazil). The lack of generality to the link between growth and FDI is evidenced when one sees that the highest FDI performance at 9% is from two countries Bolivia and Guyana, both with weaker growth below 1%. These nations also share above average terms of trade. Here there is a different attraction for inward investment, again likely to be specific to the unique trade each country offers and the context of that trade market.

In 2008, the highest growth countries, Peru and Uruguay (rates above 7%) in cluster 3 (table 4) also have some of the highest rates of FDI (above 6%) and experienced IMF interventions. They share below average inflation at a time when the average is relatively high at 8%. Nevertheless, the highest rates of FDI (above 9%) are from countries with their own very different economic characteristics and below average rates of growth (Chile, Guyana). Table 5 also evidences that Chile and Colombia are lower growth countries achieving above average FDI and without IMF loans. Brazil and Ecuador in cluster 1 (table 4) are two countries that share above average growth and experienced IMF interventions but, in contrast, only achieve below average FDI. The overall picture is complex, with the likelihood of numerous contingencies impacting countries economic performance and the IMF only one influence amongst numerous others. The limited case patterns are temporary and contingent and do not settle into homogeneous and generalizable relationships over time.

After the financial crisis, in 2015, all the nations have not experienced further IMF interventions. The reference in tables 6 and 7 to IMF loans is historical, summarizing interventions between 1996 and 2007. In table 6, the relationship between growth and FDI shows equifinality with outcomes of above average FDI (>4%) resulting from both above average positive growth (Colombia and Guyana) in cluster 1a, and shared negative below average growth (Brazil and Suriname) in cluster 5. The latter two have an

economic performance that is noticeably worse than many of their peers (substantial pressures on government borrowing, and higher rates of inflation). Peru and Uruguay (cluster 1b) have a history of greater frequency of previous IMF loans compared to other countries and share above average restraint on government borrowing at a time when all countries have moved into negative territory with this indicator (average = -4%). Possibly the restraint on government borrowing is linked to previous reinforcement of IMF discipline. They continue to attract above average FDI. Table7 shows that Brazil shares the interventionalist IMF history of Peru and Uruguay, and yet continues to attract FDI despite the evidence on borrowing and inflation that it has neglected the IMF's classical economic disciplines. In 2015, Colombia and Chile are the other economies with above average FDI performance, yet with no recent history of IMF involvement. Nevertheless, government borrowing, and inflation also show some evidence of 'economic discipline', demonstrating close to average or below average achievements when compared to the other nations.

When IMF interventions in the sample are examined over the period 2000 -2015 there is no evidence of a core mechanistic and predictive effect with regard to IMF interventions and FDI. There is some evidence of geographical location driving partial economic similarity as several pairings in the cluster analysis dendrograms show evidence of this type of similarity in 2000 and 2008 (e.g. Colombia and Brazil; Bolivia and Paraguay; Peru and Uruguay; Guyana and Suriname). After this, such similarity between neighbour countries is not evident.

As regards, considering the possible influence of IMF interventions on future FDI there is a multifinality of results. IMF interventions look to be related to higher foreign direct investment in some countries, but not in others. Levels of growth also look to be a significant influence on FDI in some circumstances, but not others. After 2008 the IMF is much less active in the 12 countries studied, but average foreign direct investment as a proportion of GDP remains stable (table 8). Similarly, there is little evidence of a consistent pattern of intervening economic factors in these FDI patterns. There is some limited evidence in 2015 that countries with less negative outcomes for government borrowing are more likely to secure better performance for FDI (Table 7: see Peru, Uruguay, Guyana, Colombia, Chile) where Brazil is an exception with government debt of 10% of gross domestic product. This pattern is temporal and not evidenced in 2008 and 2000.

The complexity and case configurational approach highlights the indeterminate outcomes of IMF interventions. Neoliberal accounts see the IMF as a global banking institution that restructures national economies towards a more liberal market place which will prove attractive for future investors (Homedes & Ugalde, 2005; Yeldan, 2006). They argue only market investment and activity can bring prosperity. Countries must depend on private finance rather than government and central bank expansion of the economy if they are to become prosperous. The alternative Neo-Marxist accounts of the IMF argue instead that this is a global capitalist institution seeking to spread the doctrine of 'hyper marketization' where capital must flow freely in and out of countries and extract maximum profit, regardless of the social and environmental cost to the local population. IMF conditions to privatize state assets and services are seen as the key evidence of this pro-market 'anti-social' policy (Thacker, 1999).

The complexity perspective lies somewhere between these two approaches, but arguably closer to the structuralism of Marxism than the market liberalism of the imperative of open capital markets. The IMF is not an 'honest broker' of global finance as international relations pluralism might suggest. Its policy approach and agenda are driven by the most powerful, richest, and influential nations. The complexities of the global political economy are therefore structured by these dominant countries and their economic orthodoxy. Nevertheless, complexity demonstrates that there is some agency within individual nation states as they pursue their own agendas and partner with others against the dominant ideologies that sometimes feel against their national interests. The nature of the global market place is that it is politically steered by the dominant ideologies, but not totally controlled by authoritarian dictates.

Therefore, at times, individual countries pursue their own interests and appear to be resisting the economic orthodoxy represented by the IMF (Spronk, 2008). The nature of the global market system is that it is relatively unstable, with flows of money that are very difficult to predict with any high degree of accuracy. While the flows follow reinforced patterns, such as the 'flight of capital' at certain times, from certain countries, these patterns are dynamic (Stiglitz, 2004). They are not static and cyclic with any precise temporal repetition. This is complex system instability that is difficult to manage and predict.

There is much uncertainty in the operation of international relations in such unstable market conditions and while national politics seeks to bring order to such chaos, to provide stability for a population, the 'trial and error' of policy interventions is more an art form than a science (Geyer & Rihani, 2010; Haynes, 2012). It is not surprising that in such circumstances some governments behave ambivalently towards the IMF. They seek to relate to it in some circumstances and to resist it in others. Since 2015, several South American countries have begun to return to IMF lending for economic support. There continues to be discussions about the IMF changing the focus of their lending towards a notion of macroeconomic stability that might include social goals like reduced inequality and sustainability, but no clarity about how international policy interventions will adjust to achieve this (Inman, 2019).

Conclusion

As for the international role of the IMF in South America, there is little evidence that it has delivered economic stability in the last twenty years. Its language and rhetoric may have changed with more recent mention of goals such as macro-economic stability, reducing inequality, and lending to promote sustainability, but the nature of the conditions imposed on its lending suggest it will be many decades before such change in language changes the IMF's actual behaviour. Complexity explains the limited success of the IMF in South America. There is no single pattern or economic mechanism that the IMF can transfer to nations that guarantee it will achieve success with its lending. In addition, global political instability reflects global economic instability. If the highest international political goals are the free operation of the capital markets, politics merely mirrors the instability and chaos of these goals. Complexity implies that the global international arena needs to do better at negotiating shared values and a core and adaptable policy framework for intervention if there is to be more political and economic stability. Such a form of international political system, policy transfer, and financial environment has not been achieved in the current era of globalization.

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